GENERAL AVIATION

CHIRP FEEDBACK

Issue No: 32 Summer 2007

EDITORIAL

Two of the CHIRP comments published in the last issue of GA FEEDBACK provoked a number of respondents to question their accuracy.

The first involved the comment accompanying the report 'See and Avoid - Perhaps Not!' on Page 2 of GAFB 31. In attempting to simplify what are relatively complicated rules, the comment implied that controllers are required to provide separation against GA aircraft flying outside Controlled Airspace; this was not correct. As several Air Traffic Control Officers have pointed out, a controller is only required to provide separation from known/unknown GA traffic at the point it enters Controlled Airspace.

However, as soon as an aircraft that is not known to ATC enters Controlled Airspace, controllers are required to provide 5nm lateral or 5,000 feet vertical separation from the unknown aircraft, thus sterilising a large piece of the Controlled Airspace. If an aircraft is in contact with ATC and inadvertently strays into Controlled Airspace, not only can the controller provide navigational assistance, but also the required separation against known traffic is reduced to 5nm (or in many cases 3nm laterally) or 1,000 feet vertically.

Whereas a controller would not generally be unduly concerned if a relatively slow moving aircraft (most GA are slow in this context) is operating close but parallel to the CA boundary. Traffic on a perpendicular track or moving erratically close to the boundary would be of more concern.

Thus, as was noted in the last issue, it is recommended that pilots listen out on the appropriate ATC frequency and, where available in the ongoing transponder trial (for details see Fly on Track website - www.flyontrack.co.uk), set the notified transponder code. If the unit is not too busy, advise ATC of your presence. Alternatively, plan to fly sufficiently far away from the Controlled Airspace boundary to ensure that a minor track deviation does not lead to an infringement. If your aircraft is fast-moving or on a perpendicular track or in manoeuvring flight it is recommended that you set yourself a 'buffer zone' of around 5nm unless in contact with the controlling ATC unit, since a distraction or minor navigation error could easily lead to an infringement.

The second group of comments concerned the *CHIRP* comment regarding the purpose of the IMC Rating (IMCR) that accompanied the report 'Safety Altitude or VMC' published on Page 4 of GAFB 31. A number of IMCR holders questioned the basis for the statement on the purpose of the IMCR.

Whilst it is true that the IMCR will provide a pilot with the relevant training and confidence to fly the IFR manoeuvres detailed in the syllabus, the fifteen-hour syllabus is insufficient to provide many PPL holders, particularly those with experience levels close to the minimum required, with the embedded Instrument Flying skills that are required for prolonged bad weather flying or operating in Controlled Airspace without significant additional Instrument Flying practice.

Whilst the IMCR permits the additional privileges that are detailed in Schedule 8 of the Air Navigation Order, it does not permit the full privileges associated with an Instrument Rating, principally operations in Class A, B and C Airspace; the Instrument Rating syllabus comprises 50/55 flying hours and is an accepted qualification in other States unlike the IMCR, which may not be used in the airspace of any other State unless that country has given permission to do so.

The CHIRP comment in the last issue was not intended to deter pilots from gaining an IMCR, but rather to point out that regular practice and recency in instrument flying are essential to maintain proficiency. Without these, the level of retained proficiency may be insufficient to exercise safely the full privileges associated with the IMCR, particularly in the case of individuals with relatively low overall levels of flying experience.

Whether the weather is suitable or not depends on the capability of the pilot to operate safely.

WHAT'S IN THIS ISSUE?

A General Aviation Safety Newsletter

from *CHIRP* the Confidential Human Factors Incident Reporting Programme

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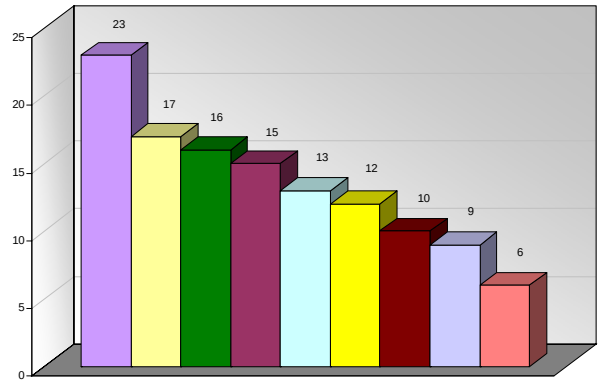

Handling/Operation
Airmanship, Handling of A/c, Operation of Equipment

Procedures
Use by Reporter, Use by Others, Adequacy

Aircraft Technical
Propulsion, Design, Systems

Situational Awareness
In the Air

Communications - External
With ATC

Near Miss
Airprox, Near Collision with Terrain, Loss of Seperation

Air Traffic Management
Level of Service, Seperation

Maintenance
Standards/Workmanship, Base

Regulation/Law
Non-compliance, Adequacy

Number of Reports since the Last Issue: 21

Report Topics Have Included:

- Comments on 'See and Avoid' [GAFB Issue 31].
- Comments on 'Safety Altitude or VMC' [GAFB issue 31].
- Lost above cloud.
- Close encounters in Class G airspace.
- Loose play in PA28 stabilator bearings.
- Certificate of Airworthiness - Alleged deficiencies.
- Uncertain of position - Zone infringement.
- Loss of engine coolant

REPORTS

I CAN SEE HIM, BUT CAN HE SEE ME?

Report Text: I turned onto final after I had noticed a Cessna at the hold point apparently waiting for me to land before positioning for take-off. It then moved to the take-off position and as I crossed the threshold I noticed it start to roll. I applied full power to go round and climbing at around 400' was surprised to see the Cessna below me to port. He clearly had not seen me at any time. I was flying non-radio since my transmitter was giving trouble but reception was OK. My microlight is bright yellow.

CHIRP Comment: **Microlights similar to the type the reporter was flying have relatively little structure from a head-on aspect; moreover, conspicuity research commissioned by the Royal Air Force some years ago concluded that the colour yellow, whilst being good when viewed from above, was relatively poor when viewed from below, as in this case. Given the difficulty in seeing some microlight aircraft, it is good practice in circumstances similar to those in this report for the pilot of the aircraft on final approach to assume that he/she is not visible to the aircraft on the ground, particularly when operating non-radio, and to make an early decision to commence a go-around if the other aircraft enters the active runway.**

BBMF ENCOUNTER

Report Text: The flight was the first with my wife. I'd seen NOTAMs that the RAF Battle of Britain Memorial Flight (BBMF) was displaying at two locations at times that bracketed my planned flight time, so I planned a clockwise route that would position me 10-20nm south of their direct route between the display sites at about the time I estimated they would be transiting, and routing back along the coast at a time when they would be performing their second display.

Cloud cover was broken around 4,000ft. On changing frequency to AAA (I had assumed that BBMF would be also talking to AAA) ATC told me to lookout for the BBMF transiting east at 3,000' but I don't remember hearing any position information.

Whilst I was thinking 3,000' would be quite close, and "good job they'll be further north" the flight appeared directly in front of me and passed overhead with what probably was 300' or less vertical separation. What became clear to me from this was:

a) The BBMF flying as a three-ship formation occupies a very wide piece of airspace - an avoiding turn right isn't an option.

b) They are quite likely to be flying VFR

c) If I'm going the pretty way they also might like to go the pretty way - why wouldn't they want to enjoy the view?

d) With a ground height of 1,800-1,900' and a cloudbase around 4,000' - there isn't all that much vertical space - so flying in a valley is quite likely.

I realise its not that unusual to meet single aircraft fairly close; however, I'm reporting this because, in talking to other pilots since, some have said that the above points hadn't occurred to them. Also, I'm in search of any advice that would have avoided this encounter completely.

CHIRP Comment: **Whereas, as the reporter notes, BBMF displays are NOTAMed, transit flights to/from displays are not. Both the BBMF and the Red Arrows regularly transit at various altitudes under Visual Flight Rules sometimes at low level, the latter flying at high speed and often well spaced. It is also worth noting that lookout from some BBMF types is restricted, particularly in a downward direction, so it doesn't follow that if you have seen them, they have also seen you.**

FIX OR FLY?

Report Text: An inexperienced colleague recently encountered airframe vibration after landing away, which was sufficiently serious for the pilot to call ATC and declare an emergency, as a result of which the airport fire brigade was alerted to assist him. The aircraft was subsequently retrieved by a Club instructor.

In spite of having had a recent routine maintenance check the problem was not rectified, as the Club manager would not allow the aircraft to be taken out of service for the time necessary to fix the problem.

On the next occasion that I flew the aircraft, the nose-wheel vibration was still present to such an extent that it was shaking the whole airframe quite violently even when holding the control column back as far as possible. I am certain that a less experienced pilot would have lost control.

I feel that safety is being compromised in not fixing the problem..

CHIRP Comment: **Nosewheel vibration, if left uncorrected, can lead to structural damage/failure.**

The reporter's concern was represented to the CAA Chief Surveyor. A subsequent pre-notified visit by the CAA Area Surveyor established that the outstanding rectification had been completed immediately prior to the CAA visit.

ATZ RADIO PROCEDURES

Report Text: A Squirrel helicopter was operating on survey work approximately 3/4 of a mile due east of the airfield at a height of 150 feet (estimated). The helicopter was heading in a northwesterly direction, directly beneath the runway climb out.

At this time, a PA28 called ready for departure for a local flight to the South of the airfield. I gave the PA28 pilot traffic information about the Squirrel and told him to take off at his discretion. The PA28 rolled immediately and at a height between 100 and 150 feet announced that he was changing to AAA Radar (neighbouring airfield). At this time, the Squirrel was only about 500 metres northeast of the PA28 at a height of 100 feet still heading northwest. The PA28 was only about 300 metres from the take-off point when he changed frequency.

I considered this early frequency change to be irresponsible because it would not have been possible to contact the pilot of the PA28 quickly had the Squirrel made a sudden heading change (which he did in fact do a few minutes later). Furthermore, the Squirrel would have almost certainly been below AAA's radar coverage.

Additionally, the PA28 pilot's action is in contravention of Rule 39, paragraph 3. We need to be able to talk to all aircraft in our ATZ for reasons of flight safety and in order to provide a proper FIS to aircraft operating within the ATZ and beyond.

A number of pilots continue to ignore this fact.

CHIRP Comment: **One of the principal purposes of an ATZ is to enable everyone within the Zone to be able to communicate with each other.**

Although there are some airfield combinations where contacting the major airfield as soon after take off as practicable is beneficial, the exact point of transferring will depend on the location of other traffic in the ATZ. If as reported, the timing of the transfer in this particular case was inappropriate and should have been delayed.

AERO-TOWING - RELEASE OR NOT?

Report Text: The incident occurred when I was towing a vintage glider during a glider rally. The take off run was normal and the tug/glider combination cleared the hedge at the southern end of the grass runway comfortably. Shortly after clearing the end of the airfield and at a height of approx 300' above the airfield there was a smell of burning in the cockpit of the tug. The engine was developing full power and there were no unusual indications on the engine/electrical gauges.

The airfield is at the top of a ridge and, although only 300' above the airfield the combination was no more than 500' above the ground at the foot of the ridge. My first thought was to release the glider and land immediately in the nearest possible landing area (field). The glider pilot would not have had a reason to expect an early release and I had no knowledge of the pilot's experience in making field landings. Nonetheless, all cross-country glider pilots will have received training in making field landings, although a release at 500' would call for some very quick thinking.

In the event, before I could come to a decision to release the glider, the smell of burning disappeared and from then on the flight continued normally to a height of 2,000' above the airfield where the glider pilot released.

On landing I found a charred hole in the lower engine cowling approx 12" in diameter. The front LH exhaust pipe between the cylinder and the muffler was completely missing having detached during flight.

I have thought about this incident many times and still wonder whether my concern for the glider pilot (not familiar with the area) unwisely overtook my concern of the safety of the tug (and me!). If the smell of burning had not cleared (or if I had made the release decision quickly) then I would have released the glider and landed as quickly as possible - I think.

As it was, I allowed my concern for the glider pilot to become the primary factor in making the decision. Even now, writing it down as accurately as I can, I am unsure as to the correctness of my actions and would welcome your comments.

CHIRP Comment: **Given that the smell of burning was only transitory and the engine continued to develop full power with no additional untoward indications, the reporter's decision not to release the glider and to continue was fully justified.**

More generally, it should be remembered that the tug pilot is always the captain of a tug/glider combination and must make his/her decision based solely on the performance/handling of the tug aircraft. Glider pilot training for aero-towing should include being prepared

for a release from the tow at any time during the take off and climb.

IGNITION FAILURE

Report Text: I was flying my Pegasus XL flex-wing microlight returning to the airfield after some local flying when I experienced a severe loss of engine power. I was within gliding range of the airfield so joined downwind at approx 1,500' and glided around the circuit intending to land on the runway. As the engine was now doing little, I shut it down. Another aircraft landing in front failed to clear the runway in time so I made a safe landing in the field adjacent to the runway which contained some low crop. No damage to aircraft or injuries.

On investigation I found the fault to be a broken spade/crimped connection on the ignition wiring causing the two cylinder engine to run on one cylinder only. This broken spade connection on the magneto end ignition coil is in a very inaccessible location and difficult to inspect during pre-flight checks. The fault has now been repaired.

CHIRP Comment: **The BMAA advice in a situation such as that faced by the reporter is to keep the engine running at idle until sure of completing the forced landing. Also, if you have a radio available, make a call to alert other aircraft to your predicament. In the circumstances described a PAN call would have been appropriate.**

Notwithstanding these two points, the reporter coped extremely well with a difficult situation.

A CHAPTER OF ERRORS

Report Text: I had recently bought an aircraft and was keen to take a friend flying as he had seen it but not yet flown in it. The previous day, the weather had been low cloud at the start of the day but had cleared late morning to become a super afternoon. I checked the TAF in the morning and it was forecasting a clearance later in the day so we met at the airport at about 1000hrs, where the weather was not good. We had a coffee and I phoned our planned destination, and asked the weather; they said it was overcast but they were flying, which I inferred to mean reasonable, so I decided to set off. I booked out with the tower and noted a change in the controller's voice when he asked me if I was going VFR but I did not enquire as to the cloud base, which I reckoned was above 2,000 feet QNH.

We took off to the East and then climbed out to the West soon reaching the cloud base, which was about 1,500 feet; lower than I had thought. As I know the route very well I pressed on but was concerned because there is high ground and a TV mast to the North of the track, so I made sure I kept to the South; the work load was very high on the flight. I eventually spotted a town I knew which confirmed that I was clear of the mast, so I set course for our destination, which I contacted by radio. They gave me the runway and QFE.

I set the QFE and realised that we were approaching the airfield at circuit height. I spotted the airfield and was naturally very relieved and set myself up for a straight-in approach to the westerly runway, which I had used on my last two or three visits to the airfield and is the normal runway in the prevailing westerly wind conditions. I heard an aircraft calling downwind as I was on about two miles final and realised that we would be arriving at about the same time, so I turned North of the centre line to orbit until I saw the other aircraft and could position number two. He did not appear and I heard him call finals, which is when he should clearly have been in sight.

It then dawned on me that he was finals to the easterly runway, which was the one in use, and not the westerly runway to the north of which centre line I was orbiting. I then flew downwind to the North of the field, not realising that the firing range to the North of the airfield was active, and landed from a left base.

This memorable flight ended with us nearly taxiing into the fence at the fuelling bay because the left brake failed.

What a chapter of errors!!

I am an experienced pilot but I let circumstances put pressure on me and made several bad decisions.

1. I assumed that as the TAF gave clearing weather and, because it had cleared the day before, that it was going to clear; it actually stayed bad all day but was slightly better for our return flight.
2. I let the pressure of taking my friend for a flight and the fact that I wanted to fly my new aircraft overcome my normal cautious self.
3. I did not check with ATC as to the actual cloud base before departure.
4. I did not make a decision to return when we had taken off still believing in 1 above.
5. Because of the high work load approaching the destination airfield, I did not absorb the runway in use when it was given to me and assumed it was the one I had used on previous visits. The indications were there with my take off to the East on our departure. Only the fact that I was very familiar with the circuit and was listening to the radio prevented a potentially dangerous encounter with the other aircraft in the circuit.
6. I should not have been flying with unreliable brakes.

CHIRP Comment: **The reporter's post flight analysis includes all of the important lessons to be learned from this incident and is a reminder that experience does not always provide protection from making unwise decisions.**

Whilst Terminal Aerodrome Forecasts (TAFs) are an important element of pre-flight planning, it must be remembered that they are, as their name implies, forecast information. The weather may not turn out as forecast and only an actual report (METAR or SPECI) can indicate this; therefore, a series of actual weather reports should be used to assess a weather trend.

The Meteorological Office website (www.metoffice.gov.uk/weather/uk) contains useful information including recent actual weather and 24hr trend information